

Appl. No. 10/708,152
Amdt. dated May 17, 2005
Reply to Office action of April 12, 2005

Amendments to the Claims:

This listings of claims will replace all other versions and listings of claims in the application:

Listing of Claims:

- 1 (currently amended): A method for fabricating a fluid injection head
5 structure comprising steps of:
providing a substrate;
forming at least one bubble generator on the substrate;
forming at least one functional device;
forming a first conductive trace, which is composed of [[the]] a
10 poly-silicon layer; and
forming a second conductive trace, which is used to electrically couple
the functional device with the bubble generator, and also serves to
couple the functional device with the first conductive trace.
- 15 2 (original): The method of claim 1 wherein the method further comprises
forming a contact layer positioned between the first conductive trace
and the second conductive trace to electrically couple the first
conductive trace with the second conductive trace.
- 20 3 (original): The method of claim 1 wherein the second conductive trace
comprises a pad.
- 4 (original): The method of claim 1 wherein the method further comprises a
step of forming a dielectric layer between the first conductive trace
25 and the second conductive trace.
- 5 (original): The method of claim 1 wherein the functional device is a
transistor comprising a source, a drain and a gate.

Appl. No. 10/708,152
Amdt. dated May 17, 2005
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6 (original): The method of claim 5 wherein the transistor is a metal oxide semiconductor field effect transistor (MOSFET) and the gate is composed of a poly-silicon layer.

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7 (original): The method of claim 1 wherein the gate and the first conductive trace are formed in a same photo-etching process (PEP).

8 (original): The method of claim 1 wherein the material of the second conductive trace is any one of aluminum, gold, copper, tungsten, alloys of aluminum-silicon-copper, and alloys of aluminum-copper.

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9 (original): The method of claim 1 wherein the bubble generator comprises a first bubble generating device and a second bubble generating device positioned adjacent to a corresponding orifice on a corresponding chamber, wherein when the chamber is full of fluid, the first bubble generating device generates a first bubble, and then the second bubble generating device generates a second bubble to eject the fluid from the chamber through the orifice.

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10 (original): The method of claim 9 wherein the first bubble serves as a virtual valve, restricts flow of fluid out of the chamber.

11 (original): The method of claim 1 wherein the method further comprises the steps of:

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forming a dielectric layer on the substrate;

etching the substrate and the dielectric layer to form a manifold and at least one chamber connected to the manifold such that fluid can

Appl. No. 10/708,152
Amdt. dated May 17, 2005
Reply to Office action of April 12, 2005

flow through the manifold to the chamber; and
forming at least one orifice positioned adjacent to the corresponding
bubble generator, which is connected to the chamber for ejecting
the fluid.

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12 (original): The method of claim 11 wherein the method further
comprises a step of:
forming a low stress layer, wherein the bubble generator is formed on
the low stress layer.

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13 (original): The method of claim 11 wherein the injection head is used as
a print head of an inkjet printer, the manifold is connected to an ink
cartridge, and the fluid is the ink of ink cartridge.

15 14 (new): The method of claim 1 wherein at least one layer of the functional
device is formed on the same poly-silicon layer as the first conductive trace.

15 (new): The method of claim 6 wherein the gate of the MOSFET is formed on
the same poly-silicon layer as the first conductive trace.

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